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ABSTRACT

The relationship of time spent in either Montessori or traditional preschool programs to the preschooler's development in five parameters was studied. The five parameters were: (1) personal skills; (2) relationship with teachers; (3) peer relations; (4) behavioral control; and (5) cognitive skills. A review of the literature on Montessori and other preschool programs is presented. Three Montessori programs and three traditional programs provided the subjects for the study. The Prekindergarten Scale, a multiple choice behavioral rating scale, was completed for each child by the program teachers. Results revealed that the only significant variable for predicting time in program for the traditional program was relationship with teachers, which was also the only variable that was insignificant in predicting time in program for the Montessori program. The strongest relationship was between time in the Montessori program and relationship with peers with age controlled. Four tables of quantitative data used in the study and 12 references are appended. (GLR)

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Development of Social, Personal and Cognitive Skills of Preschool Children in Montessori and Traditional Preschool Programs

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Abstract

The relationship between time in Montessori and Traditional Preschool programs and the preschool child's development of (1) personal skills, (2) relationship with teachers, (3) peer relations, (4) behavioral control, and (5) cognitive skills with age controlled was used to compare the relative effectiveness of the programs. This design was necessary since it is likely that parents who select the Montessori program for their child are different from parents selecting traditional preschool programs for their children. Three Montessori programs (n = 108) and three traditional programs (n = 116) provided the subjects for the study. The Pre Kindergarten Scale (PKS), a multiple choice behavioral rating scale was completed by the programs teachers on each child. The results revealed that the only variable significant in predicting time in program for the traditional program, relationship with teacher, was the only variable insignificant in predicting lenth of time in program for the Montessori program.

The strongest relationship was for length of time in the Montessori program and relationship with peers (18 percent of variance) with age controlled.

Development of Social, Personal, and Cognitive Skills of Preschool Children in Montessori and Traditional Preschool Programs

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Maria Montessori viewed preschool as the time when children develop the social and intellectual growth to become confident and responsible participants in a democratic society. Social and personal development plays an important role in the Montessori program. Social and personal development is aided by the role of the teacher, the free method of work, and the prepared environment. These all encourage respect for others and self. In the beginning the child works independently, but observes what others do, especially the older children. Soon the child starts to interact with others. The older children participate with the younger children and help them in a natural way that they both enjoy. Instead of competitiveness there is cooperation. This results in a secure environment that encourages the child to develop respect for self, others, and for the class environment. Eric Trist (1970) mentions self regulation, integration,

independence, interdependence, coordination, and cooperation as the basis to human welfare. These are characteristics encouraged by the Montessori program and should be more evident in Montessori programs than in the traditional preschool programs.

Lohman (1988) identifies several similarities between Montessori and other theorists such as Dewey, Piaget and Vygotsky. Lohman asserted that the Montessori method provides the means for the kind of social and individual growth that enables children to become "heroes of their own lives". Lohman stressed the importance of the "zone of proximal development" as a sign to teachers of a limit to their knowledge of children and as a admonition to teachers to be more observant and less directing concerning learning activities of the child.

Laura Berk (1973) analyzed classroom activities which make up educational programs for young children. Berk made comparisons between six preschool programs in order to describe the pattern of activities, objectives, behavior of teachers, and behavior of the children. The six preschool settings included a Montessori program, a Headstart program, two laboratory

nursery school classrooms, a franchise day care center, and a community day care center. Berk (1973) found that Montessori's stress on individual accomplishment did not interfere with children's opportunities to associate with one another. In fact, Berk found that greater stress on children's associations with peers occurred in this environment than in any of the other five preschools studied. This finding was related to the high incidence of child structured and inititated activities in the Montessori Program; characteristics which Berk (1973) found in her study to foster peer interaction.

Berk (1973) also found that teacher goals became realities in the Montessori setting, more than any of the other preschool programs studied. Berk attributed the congruence between teacher ideals and actual practice to a well-defined preschool philosophy and set of curricular purposes which guide the Montessori teacher's daily activities with children. This clarity of purpose explains Berk's finding that disruptive behavior was at a minimum in the Montessori classroom. The expectation that children carry out activities in prescribed ways and the extent to which children

deviate from these expectations make developing behavioral control an easier task for the children in the Montessori program.

Leandro Bartolini (1988) noted that the 80's seems to have brought with it a shift in emphasis from the developmental curriculum to a more academic one. However, Bartolini states that the literature on the academic and the developmental kindergarten curriculum states that an academic curriculum if emphasized before children are ready, could be educationally harmful. Jan Fischer (1982) states that Montessori follows the developmental rather than the academic curriculum. In traditional nursery schools the pendulum swings back and forth causing confusion and the use of unclear procedures that hinder development.

A comparison between Montessori and traditional programs should reveal differences in the children's social, personal and cognitive skills based on length of time in the program. It was expected that the Montessori programs studied would demonstrate a stronger relationship between length of time in the program and the independent measures with age statistically controlled. Thus it is expected that

children in the Montessori program would have developed more in the independent variables than would be expected by age alone.

Parents who select the Montessori program over the traditional preschool program may be significantly different from parents enrolling children in traditional programs. This makes it unwise to use the traditional nursery school as a control group. The present study deals with this difficulty by using time in program for both the Montessori and Traditional programs as the dependent variable. The independent variables will be age (used as a covariate) and Relationship with Teacher, Personal Skills, Peer Relations, Behavioral Control, and Cognitive Skills. It is expected that because the Montessori programs are more developmentally appropriate that they would promote more growth in the social and cognitive areas.

Procedure

Six preschools in Southeastern United States participated in the study, three Montessori schools and three traditional preschools. The three Montessori schools had eight teachers trained in Washington, D.C. and Raleigh, N.C., both training centers for the

southeastern United States. The traditional nursery schools were privately operated by college trained personnel and included nine teachers.

The traditional programs were selected because they served the same type preschool child as the Montessori program. One of the programs was a franchised day care center and the remaining two were independently operated programs. The traditional programs were serving the same communities as the Montessori programs.

A total of 108 Montessori students and 116 traditional students were rated by their teachers on the Pre-Kindergarten Scale (PKS). The PKS measures (1) Personal Skills, (2) Relationship with Teachers, (3) Peer Relations, (4) Personal Behavior, and (5) Cognitive Skills. The PKS measures these areas by presenting a situation that can be observed in the preschool situation and requiring the teacher to select one of the four possible behaviors that best describes the child's usual behavior in the presented situation. An example of an item from the PKS is included below:

When this child wants to use an object a classmate is using, he:

1. asks the classmate's permission to use the object
2. waits until the classmate is through with the object and takes it without permission
3. asks his teacher if he may use the object that his classmate is using
4. occasionally takes object while classmate is using it without asking permission
5. have not observed.

The PKS subscales were established through the use of factor analysis. The factor validity and reliability was established through previous research by the investigator (Flynn, 1971, 74, 75, 76, 86). The PKS data was collected during the spring for all children. The purpose of the rating was not explained to the participating teachers. It was implied that the results of the rating would be used in establishing objectives for each child.

Correlation and regression analysis was used to determine the percentage of variance each PKS factor explains of length of time in program. The five PKS

factors were used as independent variables with the child's age used as the first predictor and the length of time in the program used as the dependent variable. The difference between variance accounted for by age alone in predicting length of time in the program and the percentage of variance accounted for by each of the five factors individually in predicting length of time in program in conjunction with age provided a measure of the two programs effectiveness in developing these factors.

Studies of the Montessori program (Berk, 1973, Winick, 1972, Lohman, 1988) indicate that they are operated by the teachers in a more unified manner with more clearly defined goals than traditional preschool programs. Thus it is likely that the results obtained will apply to other Montessori preschool programs. The limitations of the study was that a true experimental design was not used. It is not feasible in evaluation of preschool programs to randomly assign subjects to programs. The alternative applied in the present study is the use of statistical control of age on the dependent measure, length of time in program and then determine if the independent variables are developed

more than expected by age alone. In other words is there a relationship between length of time in program and the independent variables. To provide a basis of comparison three traditional programs were also rated on the Pre Kindergarten Scale and identical statistical analysis was performed.

RESULTS

Table 1 presents the means and standard deviations for the Montessori and Traditional preschool children. The differences between the means of the traditional and Montessori preschool children are small and statistically insignificant. The lower the score on the independent measures the higher the observed characteristic. Despite the average age of the children in the two programs being similar (4.65 to 4.53), the Montessori children were in the program a month and a half longer than the traditional program.

INSERT TABLE I

The intercorrelations between the variables under study for the Montessori Preschool children are in Table 2.

TABLE 2

The highest correlations in Table 2 are between cognitive skills and the other independent variables. Equally as high are the correlations between months in the program and the dependent variables. Age also demonstrated a strong relationship with the independent variables.

Table 3 presents the intercorrelation between the variables under study for the traditional preschool children. These correlations are similar to the correlations obtained for Montessori preschool children. The strong correlations between cognition, age, and months in program with the independent are also similar to the Montessori preschool children.

The results of the analysis of the relationship between months in the program and each of the independent variables for both the Montessori and the Traditional program with age controlled is presented in Table 4.

INSERT TABLE 4

A comparison of the results for the Montessori and traditional programs demonstrates the different role the teacher plays in the Montessori program as compared to the Traditional program. The only variable significantly related to time in program for the traditional program, Relationship with Teacher, was insignificantly related to months in program with age controlled for the Montessori preschool children. The contrast is highlighted by the finding that this was the only significant relationship found for the Traditional preschool program and the only insignificant relationship found for the Montessori preschool program. The largest relationship found was between relationship with peers and months in program with age controlled (18 percent) supporting the contention that the Montessori program has a positive effect on peer relation. In contrast, relationship with peers accounted for 0 percent of months in program variance with age controlled for the traditional preschool children.

DISCUSSION

The comparison between the results obtained for the traditional and Montessori preschool programs demonstrated striking differences in the results. The only significant relationship obtained for the traditional preschool children was the relationship between growth in relationship with teacher and time in program. This contrasts with an insignificant relationship between these two variables for the Montessori children.

It was expected that there would be no interference with children's opportunities to associate with one another in the Montessori programs. In fact, Berk (1973) reported greater stress on children's association with their peers in the Montessori program than in any of the programs studied due to the high incidence of child structured and inititated activities, characteristics to which Berk found in this study to foster peer interaction.

A significant relationship between Personal Skills, Behavioral Control, Cognitive Skills and time in program was found for the Montessori Program children, but not for the traditional program children.

Since all preschool programs are concerned with developing these characteristics in their children, why was the Montessori program effective and the traditional program ineffective? Berk's (1973) finding that teacher goals became realities in the Montessori program more so than the other program studied may explain the present findings. The Montessori teacher knew clearly what activity should be conducted in the classroom to accomplish these goals. Berk reported a high degree of consistency among teachers of the Montessori program. This clarity of purpose may be largely responsible for difference in effectiveness of the Montessori program and the traditional programs. The failure to find a significant development in "Relationship with Teacher" in the Montessori children should have been expected as the teacher is a facilitator, not a director in the Montessori classroom. The task at hand provides the intrinsic satisfaction for the preschool child, rather than teacher administered rewards, as achievement should be its own reward. Steven (1976) in his study of seven preschool programs reported adult feedback did not improve problem solving but children giving their own

corrective feedback improved in problem solving ability. Steven's also reported that the use of corrective feedback may have been responsible for lower inventiveness scores.

The strongest effect obtained was the relationship obtained between time in program and Peer Relations' with age controlled. Karnes (1978) research on the short and long term effect of preschool programs found no statistically significant differences were found for the programs (including the Montessori program) after ten years on the intellectual and achievement measures. Karnes reported that significant differences were found among the programs on their effects on family relations. The group most frequently reported getting along very well in the family were the Montessori students. This may be explained by the method used by the Montessori teacher in settling disputes by guiding without stepping into their disputes. Berk (1973) noted that in the Montessori preschool, the stress was on individual accomplishment in promoting personal skills, behavioral control and cognitive skills.

The important Montessori program characteristics that foster preschool children's development are

clarity of purpose, opportunity for finding satisfaction in accomplishments for their own sake rather than teacher praise, and allowing the child to follow his/her own timetable, are techniques that can be applied to children of all ages. Montessori techniques can be applied to all settings as long as the teacher is flexible and provides material that is self-correcting in order that the child become "the heroes of their own life" (Lohman, 1988). Gertrude Stein's observation that "a friend is one who does not take away", conveys the spirit of the Montessori program. This same spirit appears to be advantageous both in school and home settings.

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TABLE I

MEANS AND STANDARD DEVIATIONS

FOR

MONTESSORI (N=108) AND TRADITIONAL (N=116)

PRESCHOOL CHILDREN

	MEANS		STANDARD DEVIATION	
	Montessori	Traditional	Montessori	Traditional
Personal Skills	6.46	7.01	1.50	1.62
Relationship w/ Teacher	7.35	6.71	.98	1.09
Relationship w/ Peers	6.84	7.02	1.68	1.85
Behavioral Control	7.70	7.80	1.45	1.62
Cognitive Skills	7.89	7.81	2.09	2.30
Months in Program	13.76	12.21	9.60	10.40
Age	4.65	4.53	.94	1.01
Sex	1.54	1.49	.51	.50

TABLE 2

INTERCORRELATIONS FOR MONTESSORI PRESCHOOL CHILDREN

LABEL	PERSON. SKILLS	REL. W/T	REL. W/P	BEHAVOR. CONTROL	COGNI.	MNTH.	AGE	SEX
Personal Skills	1.00	0.02	0.35	0.03	0.56	-0.46	-0.36	-0.23
Rel. W/ Teacher	0.02	1.00	0.05	0.29	0.17	-0.22	-0.27	0.11
Rel. W/ Peers	0.35	0.05	1.00	0.25	0.58	-0.54	-0.35	-0.19
Personal	0.03	0.29	0.25	1.00	0.38	-0.31	-0.19	0.45
Cognitive	0.56	0.17	0.58	0.38	1.00	-0.57	-0.51	-0.02
Mos. in P.	-0.46	-0.22	-0.54	-0.31	-0.57	1.00	0.74	0.17
Age	-0.36	-0.27	-0.35	-0.19	-0.51	0.74	1.00	0.28
Sex	-0.23	0.11	-0.19	0.45	-0.02	0.17	0.28	1.00

TABLE 3

INTERCORRELATIONS FOR TRADITIONAL PROGRAMS

LABEL	PERSON. SKILLS	REL W/ PEERS	REL W/ TEACHER	BEHAV. CONTROL	COGNI.	MNTH.	AGE	SEX
Personal	1.00	0.19	0.39	0.48	0.51	-0.20	-0.40	-0.19
Rel. w/ Teacher	0.19	1.00	0.01	0.32	0.25	-0.34	-0.10	0.14
Rel. w/ Peers	0.39	0.01	1.00	0.35	0.60	-0.35	-0.37	-0.23
Personal	0.48	0.32	0.35	1.00	0.42	-0.25	-0.27	0.47
Cognitive	0.51	0.25	0.60	0.42	1.00	0.48	0.52	0.17
Months In	-0.20	-0.34	-0.35	-0.25	0.48	1.00	0.74	0.11
Age	-0.40	-0.10	-0.37	-0.27	0.52	0.74	1.00	0.05
Sex	-0.19	0.14	-0.23	0.47	0.17	0.11	0.05	1.00

TABLE 4

EFFECTS OF DEPENDENT VARIABLES ON

TIME IN PROGRAM WITH

AGE CONTROLLED

	PERCENTAGE OF MONTHS IN PROGRAM VARIANCE ACCOUNTED FOR WITH AGE CONTROLLED	
	TRADITIONAL	MONTESSORI (N=108)
Personal Skills	1.1	9.3*
Relationship w/Teacher	6.1*	0.0
Relationship w/Peers	0.0	18.0*
Behavioral Control	0.0	7.0*
Cognitive Skills	1.2	7.0*

* ($F = \geq .05$)